

--	--	--	--	--	--	--	--	--	--

Second Semester B.Arch. Degree Examination, Dec.2013/Jan.2014

Surveying and Levelling

Time: 3 hrs.

Max. Marks:100

Note: Answer any FIVE full questions.

1.
 - a. Discuss in brief the principles of survey with neat sketches. (10 Marks)
 - b. Define shrunk scale. (04 Marks)
 - c. The area of the plan of an old survey plotted to a scale of 10 meters to 1cm measures now as 100.2 cm² as found by a planimeter. The plan is found to have shrunk so that a line originally 10cm long now measures 9.7cm only. Find: i) the shrunk scale; ii) True area of the survey. (06 Marks)
2.
 - a. What are the accessories required for chain surveying? (10 Marks)
 - b. A 20m chain was found to be 10cm too long after chaining the end of day's work after chaining a total distance of 2900m. Find the true distance if the chain was correct before the commencement of the work. (10 Marks)
3.
 - a. Explain the methods of erecting perpendicular to a chainline from a point on the chain line. (10 Marks)
 - b. A survey line BAC crosses a river, A and C being on the near and distant banks respectively. Standing at D, a point 50 meters measured perpendicularly to AB from A, the bearings of C and B are 320° and 230° respectively AB being 25m. Find the width of the river. (10 Marks)
4.
 - a. What are the advantages and disadvantages of plane table survey? (10 Marks)
 - b. List the methods of plane table survey and explain any one with neat sketch. (10 Marks)
5.
 - a. Define leveling, datum, elevation, mean sea level and bench mark. (10 Marks)
 - b. The following staff readings were observed successively with a level, the instrument having been moved after third, sixth and eight readings: 2.228; 1.606; 0.988; 2.090; 2.864; 1.262; 0.602; 1.982; 1.044, 2.684 meters. Enter the above readings in a page of a level book and calculate the R.L. of points if the first reading was taken with a staff held on a bench mark of 432.384m. (10 Marks)
6.
 - a. Define the terms:
 - i) Face left observation.
 - ii) Face right observation.
 - iii) Swinging the telescope.
 - iv) Transiting the telescope.
 - v) Telescope normal in theodolite survey. (10 Marks)
 - b. Explain the measurement of horizontal angle by repetition method, using theodolite. (10 Marks)
7.
 - a. Describe with the help of sketches, the characteristics of contour. (10 Marks)
 - b. Explain with sketches, the uses of contour maps. (10 Marks)
8. Write short notes on:
 - a. Cross staff
 - b. Perpendicular offset and oblique offset.
 - c. Orientation of plane table.
 - d. Classification of surveying. (20 Marks)